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ABSTRACT

This investigation studied the feasibility of establishing a network of centers to demonstrate model programs in the health technologies. It was necessary to: 1) identify colleges with multiple health-related programs; 2) identify campus health-related programs which have recognizable strengths; 3) further define "recognizable strengths" through site visits to a sample of these programs; 4) designate health technician occupational areas for which few or no satisfactory programs are now available; and 5) utilize the data gathered to reach conclusions about a feasible plan which would assist two-year colleges seeking to initiate or improve health technician programs. A compilation of the results from reporting colleges showed great variation in the number and types of health-related programs available within each of 10 national regions. However, the findings revealed that a good potential network of demonstration centers exist. For best results, a mechanism will be required that will tie present innovative elements into a dissemination system. This system should provide for the sharing of scarce research personnel, help health practitioner associations extend their services, and provide an instrument for disseminating information and sharing contributions to program development. (DS)

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INVESTIGATION OF THE FEASIBILITY OF ESTABLISHING HEALTH TECHNOLOGY DEMONSTRATION CENTERS

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SUMMARY

This investigation studied the feasibility of establishing a network of demonstration centers with model programs in the health technologies. Goal attainment proceeded through the resolution of five subproblems:

1. The first problem was to identify colleges with multiple health-related programs and check existing "network" strengths and weaknesses.

2. The second problem was to identify health-related programs which had recognizable strengths.

3. The third problem was to further define "recognizable strengths" through site visits to a sample of the programs identified above. A second portion of this problem was to summarize site visits through the following: (a) categorization of college programs and practices according to their readiness for dissemination of information to other colleges, and (b) collation of college needs which would have to be met in order to facilitate their performance of a dissemination function.

4. The fourth problem was to designate needed health technician occupational areas for which few or no satisfactory programs are now available.

5. The fifth problem was to utilize the data gathered to reach conclusions about a feasible plan which would assist two year colleges seeking to initiate or improve health technician programs.

The compilation of colleges reporting multiple health programs revealed great variation in the number and types of health related programs available within each Public Health Region. To identify health programs with recognizable strengths, recommendations were solicited through an opinionnaire distributed to a variety of sources. Those contacted were asked to name junior colleges or other two year institutions in their geographical area which they believed were doing an outstanding job of preparing health technicians. Site visits were made to a sample of recommended programs. The most general impression from the site visits was the unevenness of the health-related programs in the sense that they are in all stages of development. Each college had some programs which had been in existence for some time, some programs which had been planned but not yet put into operation, and other programs still on the drawing boards. Without exception, the colleges were interested in expanding their health offerings and reported many and varied community pressures to do so. There was also a consistent anxiety to improve programs through better recruitment, improved teaching, better clinical arrangements, or better means of evaluating student progress.

The report classified health practitioner associations according to their current activities which might contribute to any network of health-related demonstration programs in junior or community colleges.

Findings of the study were:

1. Colleges or programs currently performing a demonstration function need minimal financial help to improve their dissemination activities. To relieve the growing burden of demonstration, extra secretarial assistance and reimbursement for coordination responsibilities are necessary or programs will suffer. Research assistance to help plan, document and evaluate different patterns of demonstration and dissemination would appear to be an economic use of a scarce resource.

2. Colleges which have proposed relatively innovative programs or practices have often been hampered by lack of faculty time, delays in obtaining consultation from health practitioner associations, and lack of money to design ideas for trial. In this instance more extensive assistance would need to be given before dissemination is practicable. In some cases help is necessary in preparing grant requests and in contacting the most logical funding source.

3. It is a reasonable hypothesis that colleges with health-related programs recommended by the process utilized in this study would have some programs already serving a demonstration function, more which could move to this status readily with minimal assistance, and other program areas to which much had already been contributed but which needed greater input before the colleges could be helpful to program development in other institutions.

4. Because national health practitioner associations vary in staffing potential, state and regional organizational capabilities and past experience in this area, every device to help them contact a more limited number of "key" colleges would be welcomed and should be helpful in stepping up the contribution to two year collegiate health programs needed to overcome health personnel shortages.

In summary, a good potential network of demonstration centers exists. For maximal results it requires a mechanism which could tie present innovative elements into a dissemination system. Such a system would need to provide for controlled and coordinated input to colleges and to health practitioner associations. The system should (1) provide for sharing scarce research personnel, (2) seek to help health practitioner associations extend their available services, and at the same time (3) provide an instrumentation for disseminating information and sharing contributions to program development.

INTRODUCTION

Under Grant Number OEG-0-9-428015-3711 (085) Office of Education Bureau of Research Number 9-8015, the National Health Council and the American Association of Junior Colleges assumed joint responsibility for establishing the feasibility of a network of demonstration centers with model programs in the health technologies. The feasibility study had two goals: (1) to select criteria for the definition of model programs and to see whether or not there is a range of junior college settings which either (a) meet those criteria, or (b) nearly satisfy all requirements and would be amenable to study and to alteration of program(s) to better meet the criteria, and (2) to designate those areas of health care for which few or no satisfactory programs are now available.

The task force for the feasibility project consisted of an Advisory Committee (see Appendix A) of four members appointed by the American Association of Junior Colleges, four members appointed by the National Health Council, and an appointed chairman agreed upon by both the Association and the Council. In addition, a staff member from the Association and a staff member from the Council accepted designated responsibilities for the project. A full-time project coordinator and a part-time secretarial assistant completed the staffing of the project. The coordinator functioned on a full-time basis during the months of June, July, and August, 1969, and on a partial basis during May, 1969, and from September 1, 1969, to the present time.

Further definition of the Feasibility Project was accomplished by the Advisory Committee which visualized goal attainment as proceeding through the resolution of five subproblems:

1. The first problem was to identify colleges with multiple health-related programs and check existing "network" strengths and weaknesses.

2. The second problem was to identify health-related programs which had recognizable strengths.

3. The third problem was to further define "recognizable strengths" through site visits to a sample of the programs identified above. A second portion of this problem was to summarize site visits through the following: (a) categorization of college programs and practices according to their readiness for dissemination of information to other colleges, and (b) collation of college needs which would have to be met in order to facilitate their performance of a dissemination function.

4. The fourth problem was to designate needed health technician occupational areas for which few or no satisfactory programs are now available.

5. The fifth problem was to utilize the data gathered to reach conclusions about a feasible plan which would assist two year colleges seeking to initiate or improve health technician programs.

PROCEDURE

Identification of Colleges with Multiple Health Programs

To identify the existing network of health technology programs, the American Association of Junior Colleges requested information from its membership about health related programs and about numbers of students enrolled. Copies of data sheets from colleges reporting three or more health technology programs were made available to this project. Colleges with multiple health programs were classified by the Public Health Region within which they were located. (See Appendix B.) Each region was scanned, its program offerings summarized and presented to the Advisory Committee.

Identification of Health Programs with Recognizable Strengths

To identify health-related programs or aspects of programs with special strengths, the Advisory Committee was forced to deal with the issue of criteria. At the first meeting of the Advisory Committee the concept of "model" programs was modified to mean "recommended" programs. As the committee attempted to establish criteria which could be applied within a relatively short period of time to identify good health technology programs they suggested that these would be programs where some of the essentials (as described in the Guide to Health Technology Program Planning) were accomplished in a superior manner. The following items were agreed upon as information which could be of assistance in identifying "good" programs:

1. Answers to the question, "What happens to those who finish the program?"

2. College use of established checkpoints of accrediting agencies.

3. Data on the involvement of health facility administrators and health practitioner associations in junior college programs.

4. Subjective judgments of such things as: general faculty morale, student involvement, attrition, general spirit of

cooperation of various divisions of the college, interest in occupational programs, etc.

5. Flexibility in relation to new trends, awareness of change, acceptance of the need for constant reappraisal of program.

It was clear to the members of the committee that the above information would not be available for every existing program within the allotted time limits. Therefore, the committee accepted several assumptions:

1. That there are knowledgeable people on the Advisory Committee, in the program approving agencies, in state supervisory positions, and various consultants who have had an opportunity to view and deal with a wide range of these programs. Their subjective judgments are, accordingly, of value--particularly if they can begin to verbalize the reasons for their selection of individual programs as ones which have good elements of demonstration.

2. That the administrative leadership of health technology programs in individual colleges has some grasp of the strengths and weaknesses of its programs. This was thought to be a justifiable assumption since this assessment was to be combined with that of outside observers who knew the programs from varying points of contact.

Accordingly, information concerning the identification of "good" programs was sought from the following sources:

1. Committee members and staff of the project submitted written recommendations following the June 1969 meeting of the Advisory Committee.

2. Superintendents for Junior College Development or those with comparable positions in the approximately thirty-eight states with designated positions of this type were contacted by individual letters from the National Health Council. They submitted program recommendations and program information.

3. Health practitioner associations, selected voluntary health associations, and associations representing health agency administrators were invited to the National Health Council headquarters for a meeting on August 8, 1969. Recommendations were either solicited at earlier interviews or were submitted in writing following the invitational meeting.

4. The National Health Council career consultant contacted Health Career Program Directors from state and/or local health councils and asked each to recommend programs.

As the recommendations were received they were recorded by placing a check for each recommendation before schools reporting to the AAJC query prior to August 20, 1969, or by adding the college to the list if its programs were recommended but the college had not reported by the cutoff date. (See Appendix B.)

Further Definition of Recognizable Strengths

In order to more fully investigate the meaning of "recommendation," site visits were made to a selected sample of those schools which had two or more recommendations. The site visit schedule (Appendix C) was based on the availability of college faculty, with an attempt to have some representation from as many regions as possible. There were, however, severe limits on both time and finances which helped to shape the schedule. There was particular avoidance of colleges represented on the Advisory Committee since information about them was readily available to aid committee deliberations. An effort was also made to canvass at least one region with some attempt at inclusiveness (Region IV received most emphasis) in order to more adequately view the range of program practices.

Summarization of data gained from site visits was made through categorizing college programs and practices according to their readiness for dissemination of program principles and practices to other colleges. The categorization utilized was suggested by the Guba-Clark schema of the diffusion process* described in Theoretical Paper #18, "An Evaluation of the Model for Educational Improvement as an Analytical Tool for Describing the Change Process" (March, 1969, Wisconsin Research and Development Center for Cognitive Learning). (See Appendix D for schema.) The diffusion process refers to the distribution of an idea from its invention source to the point of adoption. As Guba and Clark use the term "adoption" it is close to "institutionalization," meaning that the former innovation has become an accepted part of the institution and its removal would affect the total institution. In using this model, the assumption is made that it would be desirable for programs and practices to be "institutionalized" in one setting before they are used as demonstrations. In this instance, the concern was for an enumeration of programs or practices in the health technician education sphere which were at various stages of readiness to be communicated to other colleges for use or for adaptation and use. The stages adopted as categories after examination of programs at the selected sites were as follows:

1. Those institutions currently performing a demonstration function for health-related programs.

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*David L. Clark and Egon G. Guba, "Understanding Social Change," SEC Newsletter, 1 (1965), 1-4.

2. Those institutions where innovative health-related programs have been installed but are not yet institutionalized.

3. Locations where there was evidence of innovativeness but where the institutions (colleges) were so new that it was difficult to tell what practices might eventually become institutionalized.

4. Institutions where innovative programs or aspects of programs had been proposed but were not yet engineered.

5. Programs which had been institutionalized despite college dissatisfaction with the program design.

The enumeration of examples which will be included in the results section of this report should clarify the meaning of each of these stages.

Notes from the site visits were also examined to prepare a collation of college needs which would have to be met in order to facilitate dissemination of the innovative programs and/or practices.

Designation of Health Technician Areas with Few or No Available Programs

To designate needed health technician occupational areas for which few or no satisfactory programs are now available, data gathered from the prior steps of the investigation were compared with data gathered through consultation with health practitioner associations. These associations and others with a known "stake" in technical assistance for the health field were invited to a conference at National Health Council headquarters in New York City. The purpose of the conference was to gain their ideas of the most needed and valuable demonstrations of educational programs. Health practitioner associations summarized the activities of their organizations during the past two year period, and then submitted a written summary of the statements they had shared at the meeting. (See Appendix E for letter of invitation, for recommendations of the conference, and for list of participants.)

Drawing Conclusions

In order to reach conclusions about a feasible plan which would facilitate the creation of sound programs for health technicians in two year colleges, the information sought in the above four steps was made available to the Advisory Committee at its meeting on September 11-12 in Cleveland, Ohio. The conclusions reported here are an elaboration of their conclusions after weighing the evidence presented.

RESULTS

Identification of Colleges with Multiple Health Programs

The compilation of colleges reporting multiple health programs revealed great variation in the number and types of health related programs available within each Public Health Region. (See Appendix B.) Often one institution within a region presented a relatively comprehensive selection of programs even though few other programs were reported from that region (Regions 1 and 7). In other regions, a number of institutions had developed a multiplicity of health programs (Regions 2, 4, 5, and 9). Within other regions most health related programs had been confined to nursing or to one of the dental areas with relatively few examples of programs in other categories (Regions 6, 8, and 10). A summary of programs follows.

Region I. Unusual programs with strong enrollments. Programs scattered throughout region. Multiple programs: Springfield, Massachusetts; consortium through Yale, including Quinnipiac. University tie-in--University of Vermont.

Region II. Almost anything in every stage of development could be illustrated within this region: rural, inner-city, multiple programs in various locations, four unusual programs which were previously pilotted and state or foundation supported, developing programs throughout the state of New Jersey.

Region III. Demonstration centers could evolve here, but there are many "new" programs: a "developing" college with combination rural-city students (Northampton Community College, Bethlehem, Pennsylvania); junior college hospital planning (Essex Community College near Baltimore, Maryland); inner-city approaches (Community College of Philadelphia and Community College of Baltimore); LPN to AD nursing experimentation possible through Harrisburg. Access to state cooperation through Dr. Fibel.

Region IV. Demonstration possibilities good, even though combination of much and little in this region: Multiple programs (Miami-Dade); "development" of multiple programs (Birmingham, Alabama); programs experienced in demonstration function (Manatee Junior College, Bradenton, Florida, and Palm Beach Junior College, Lake Worth, Florida).

Region V. Almost any pattern could be demonstrated. Four centers with multiple programs (St. Mary's, Minneapolis, Minnesota; Ferris State College, Big Rapids, Michigan; Chicago City College; Cuyahoga College, Cleveland, Ohio). Technical colleges in Wisconsin should somehow be involved.

Region VI. Programs relatively scant. Multiple programs developing at El Centro in Dallas, Texas, under capable leadership.

Region VII. Scattered programs. Best start on multiple programs --St. Louis-St. Louis County); LPN programs stressed in Iowa.

Region VIII. Few multiple programs. Single programs scattered. Certainly one rural demonstration in this region is needed.

Region IX. Many special programs represented and many opportunities for multiple programs (City College of San Francisco, and Maricopa County Junior College, Phoenix, Arizona).

Region X. Heavy concentration of colleges in the Seattle area --some with special programs. Area planning of health technology programs is a possible demonstration.

Identification of Health Programs with Recognizable Strengths

Recommendations were solicited through an opinionnaire distributed to a variety of sources. Those contacted were asked to name junior colleges or other two year institutions in their geographical area which they believed were doing an outstanding job of preparing health technicians. Health practitioner associations, the American Hospital Association and the American Association of Junior Colleges were not restricted in the area from which they were to draw their recommendations. Recommendations were received from all Advisory Committee members who represented the two year colleges, from the American Association of Junior Colleges, and from 11 of the 17 junior college consultants contacted through AAJC. All of the states were contacted, with 27 states replying. However, Rhode Island had only one institution which provided technician level programs, while Nebraska, Oklahoma, Georgia, Maine, New Hampshire, Alaska, and Puerto Rico replied that they either had no such programs or that programs had not been in existence for a sufficient period of time to be labeled outstanding. Florida preferred to name no programs, and states like Massachusetts sent voluminous material on programs and essentially named all of the programs in their state. Several of the directors reported that they had not been in office for a sufficient period of time to make any recommendations. Other state level personnel reported criteria similar to those named by the Advisory Committee. It should be clarified that while all states were contacted, there are approximately thirty-eight states which now have individuals whose specific duties involve junior colleges. Health Career program directors were contacted by the National Health Council. Recommendations were received from 24 of 43 states which were contacted. The American Occupational Therapy Association, the American Optometric Association, the American Dietetic Association, the American Association of Medical Record Librarians,

the National Committee on Careers in Medical Technology, the National League for Nursing, the American Dental Association, the American Medical Association, the American Osteopathic Association, the American Society of Medical Technologists all made some recommendations, varying from one by the American Osteopathic Association to forty-four by the National League for Nursing consultants. The American Physical Therapy Association furnished the names of programs in existence, but preferred to make no recommendations since all were new programs. The American Pharmaceutical Association made no recommendations.

Reasons for recommending particular programs varied but again followed the five general criteria indicated by the Advisory Committee. In some cases, recommendation was on the basis of the professional standing of the program director and the general strength of the college; records of graduates, demand for graduates were most frequent reasons for recommendation; careful work with approving agencies, good rapport with clinical facilities, and balanced programs were other reasons mentioned as bases for recommendation.

Further Definition of Recognizable Strengths Through Site Visits

The site visits confirmed the importance of the criteria enumerated by the Advisory Committee for identification of program strengths. However, the selection of groups which were asked to give recommendations made it rather inevitable that the schools visited would rate well on most of these criteria. For example, program approval bodies recommended only those schools or programs which had utilized their established checkpoints. One of the recommending groups was health facility administrators. Naturally, they recommended programs which had good involvement with them or their counterparts. Likewise, since health career program directors made recommendations, they recommended those programs which had the best public image in their region and those programs which had involved the directors of health career ventures in their planning. Some schools were recommended on the basis of their general interest in health occupational programs which had been communicated to the person making the recommendation. The one criterion which often was not present to be used was the existence of students who had finished programs since many colleges had programs which had become operational within the year. It was this latter fact which encouraged the classification schema used to describe site visits. In the field of nursing and in dental areas the recommended programs <u>did</u> have superior records of performance over an extended period of time. In many instances individuals who formerly had taken leadership in these areas were now playing a leadership role in relation to all health-related programs.

The most general impression from the site visits was the unevenness of the health-related programs in the sense that they are in all stages of development. Each college had some programs which had been in

existence for some time (with the exception of new colleges), some programs which had been planned but not yet put into operation, and other programs still on the drawing boards. Without exception, the colleges were interested in expanding their health offerings and reported many and varied community pressures to do so. There was also a consistent anxiety to improve programs through better recruitment, improved teaching, better clinical arrangements, or better means of evaluating student progress.

Readiness of programs and practices for dissemination. To reflect in a meaningful fashion the variation found among the colleges in their health-related programs, categorizations were established based upon a schema of the diffusion process. This point of reference was utilized in order to offer clarification of stages of readiness to aid other colleges in program planning and innovation. The assumption made by utilizing the Guba-Clark model of diffusion is that innovative programs or practices should not only be conceived, but engineered (designed for use) and institutionalized in one setting before a particular college can be helpful to other institutions. This should not imply that the innovation needs to be perfected, but only that it should be designed with sufficient practicability to be an accepted part of the college pattern and to be producing data for evaluation--in this instance, program graduates.

Health-related programs and institutions visited can be described according to readiness to aid other colleges in program planning and innovation.

1. Institutions currently performing a demonstration function for health-related programs

Miami-Dade Junior College would be an example of an institution which could be classified as currently performing some demonstration functions. Data are available concerning the planning which was done to initiate multiple programs in the health field. Other colleges have recognized their studied attempts to design multiple programs and have visited their campuses to observe progress and to gain help in their own planning of new programs. Manatee Junior College, Bradenton, Florida, and Palm Beach Junior College, Lake Worth, Florida, have programs which are performing a function of planned diffusion of knowledge about those programs. Manatee Junior College, with help over a period of several years from the Kellogg Foundation and now operating with its own resources, has been performing a demonstration function for associate degree programs in nursing. There is evidence of careful planning of demonstrations and attempts to follow-up with observers. For some period of time, Palm Beach Junior College has had comprehensive programs in the dental field: a dental hygiene program, a dental laboratory technician program, and a dental assisting program. It, too, has been used as a demonstration center by

colleges wishing to start any of these three programs. Catonsville Community College in Baltimore County, Maryland, was one of the first colleges to initiate a mental health technology program. This program has also been utilized by many other colleges. The last three colleges clearly meet the committee-established criteria for good programs. The case is more uncertain in relation to the first college system which has been consulted by other colleges concerning the initiation of multiple programs. This is because some of the programs found in that complex have not been in existence for a sufficient period of time to gather any conclusive data concerning graduates; however, Miami-Dade planned its programs in conjunction with health practitioner association standards.

2. Institutions where innovative health-related programs have been installed but are not yet institutionalized

The second category, those institutions with innovative programs or practices which have not yet been institutionalized but where there is apparently every intent to accept the innovation, contains more numerous examples. The City College of San Francisco, after detailed study, has designed an orthopedic assistants' program. The college is committed to the program but has just initiated it as one of its curriculum offerings. The same college has also participated in the formation of a Health Professions Council for the San Francisco, California, area. While the council has indicated purposes of coordination and cooperative planning among all agencies and groups concerned with health professions, it is a voluntary movement which may flounder unless adequate financing can be found for it. Also within the City College of San Francisco, two "core" courses ([1] careers in medical health services, and [2] patient care and staff relationships) have been instituted. However, use of these courses is not sufficiently extensive to affirm the institution's commitment to a particular type of core concept in curriculum building for all health related programs.

This second category of institutions would also include the Chicago City College which has started eleven health aide programs involving fourteen weeks of teaching within the college and fourteen weeks of teaching within the hospitals. While students are at the college they all take the following core courses: Introduction to Health Occupations, Basic Science Concepts for Allied Health Workers, Basic Medical Concepts for Allied Health Workers, Nursing Arts, English for Allied Health Workers. These programs have not been in existence for a sufficient period of time to see how they may eventually be coordinated with any of the associate degree programs.

Maricopa Technical College, Phoenix, Arizona, has committed itself to the point of financing an experimental program for licensed practical nurses which would move them through the

associate degree program in nursing with approximately twelve months' work in the program. This is, however, the first year of this experimental program and it has not yet been approved by the State Board of Nursing.

Manhattan Community College in New York City has designed and initiated a medical emergency technician program but will not graduate students from this program until June of 1970. The same college has initiated a community health assistants' program which is relatively unique in design. The program provides two spin-offs after the first academic year: retardation and vocational rehabilitation. This program has been approved by the college and carefully planned with professionals but students were not admitted to the program until September of 1969. A similar curricular innovation is being proposed which would create an occupational and physical therapy combination but this has not been developed.

The Community College of Philadelphia, Philadelphia, Pennsylvania, has instituted a developmental program for 200 poorly prepared inner-city students which has math, counseling, science, English, and psychology components. Only superior teachers are used as instructors, and the program provides access to many health-related programs. While the developmental program is well conceived, its present form is not completely institutionalized. The same college has a basic support science course of six hours which integrates anatomy, physiology, and chemistry. This program is currently in wide use by all health related programs but it has not yet had adequate evaluation in reference to transferability.

Essex Community College in Baltimore County, Maryland, has designed a program for middle level hospital managers. While students have been enrolled in single courses, there is only one student who is in the process of completing the total program.

St. Petersburg Junior College in St. Petersburg, Florida, has instituted a program for health care managers which was carefully planned and initiated under federal funds but student population is low. The lack of students may prove to be a barrier to the continued existence of the program. St. Petersburg Junior College also has initiated a physical therapy assistants' program which was planned in cooperation with the state professional group. This program is staffed and thirty students have been admitted. However, the program is in its first year and thus provides no data on success of graduates.

3. Locations where there was evidence of innovativeness but where the colleges were so new that it was difficult to tell what practices might eventually become institutionalized

The third category includes "developing" institutions which give evidence of innovativeness but where it is difficult to predict to what degree these practices may be thoroughly institutionalized as the colleges grow.

Maricopa Technical College at Phoenix, Arizona, is currently operating with a grading system which does not include failure. Thus, students may not complete a course but they are not penalized if they wish to take the course again and eventually come to a satisfactory level of performance. Neither are they penalized by needing to achieve grades above a "C" level to compensate for "D's" and "F's" on their cumulative record. At the same college, three "cores" in nursing science are utilized by the nurse assistant program, and two of these are also used by the respiratory therapy program and by the surgical technician program. Both of these practices are indeed innovative but the technical center itself has been in existence for little more than a year.

Quinnipiac College, Hamden, Connecticut, is beginning to develop its two year health programs. The college has two core courses: (a) a health technology orientation course, and (b) a patient-care core. These are both so new, however, that evaluation is impossible. There is developing, also, strong cooperation with the Yale Medical Center. Both of these innovations are based upon a relatively strong science department in this private junior college.

Northampton Community College in Bethlehem, Pennsylvania, is a new institution. While three health-related programs exist currently, the college has planned for a consistent introduction of others, there is careful planning with professionals and a full-time research person is directing attention toward consistent course evaluation and institutional research. The college has a proposal before the State Board of Nursing to admit practical nurses to second-year nursing courses.

4. Institutions where innovative programs or aspects of programs had been proposed but were not yet engineered

The fourth category contains programs and practices which represent proposed innovations which have not as yet been engineered. This means that a new solution to a problem has been posed by the colleges in this category but that they have not yet been able to order and systematize the components of the proposed solution. In other words, the innovation is not designed to the point that

it is possible to make judgments about institutional feasibility or generalizability.

The City College of San Francisco is represented in this category through its cooperative work with the University of California School of Public Health and the Richmond School System. The college has played a part in what could be an important health occupations recruitment project: designing a bio-medical interdisciplinary curriculum project at the high school level. This project would integrate high school academic subjects around medically related occupations and broad opportunities to explore these occupations. The plan would be patterned after the Richmond plan for pre-engineering work at the high school level. Application has been made to the National Science Foundation for financial support to engineer the program.

Maricopa Community College District of Phoenix, Arizona, has a proposed theory of core which would divide courses into smaller units at varying levels of academic challenge. This represents an innovative approach which could be applied to multiple health related programs; it is, however, still at the theory stage.

Highline Community College in Midway, Washington, has recently joined with other junior colleges in the Seattle, Washington, area for an attempted consortium directed toward the planning and allocation of health-related programs. In addition, Highline Community College has described a plan to "lattice" three programs: inhalation therapy, inhalation therapy assistant, and emergency technician. Funding is being sought also for a plan to reorganize the traditional pattern of the associate degree nursing program.

Chicago City College has plans on the drawing board for an allied health institute which would centralize a large number of health programs in a public service college which would also include a human services institute and a public services institute. This appears to be an innovative organizational plan offering additional possibilities for correlation between health-related programs and programs in other fields.

El Centro College in Dallas, Texas, has submitted for funding a proposal to train medical corpsmen as nurses. This college has an individual as a nursing education faculty member who graduated from an associate degree program at another school and had previously been a corpsman--a valuable asset in exploring the problem.

The Essex Community College of Baltimore County, Maryland, has over the past few years engaged in cooperative planning with the administration of a total medical complex which is being constructed adjacent to the community college campus. However, the 300-bed hospital, a proposed Public Health Center and Mental Health Center, will not be completed for two years. While such

cooperative planning has been accepted by both the college and the health facility, it is not yet possible to visualize the effect of the planning upon college programs.

Jefferson State College at Birmingham, Alabama, has illustrated good use of small hospitals in the vicinity and has received strong support for its health-related programs from the community. Nevertheless, the college envisions the need for more cooperative arrangements concerning facilities since the college is in competition with its large state-supported university for clinical space.

In the St. Petersburg area, the regional medical group has asked the junior college to coordinate continuing education for health facility employees of the region. St. Petersburg Junior College anticipates the establishment of a central audiovisual system for use in the continuing education programs.

Broward Junior College in Fort Lauderdale, Florida, has developed and tested learning experience guides within its nursing program. The college is part of the Nova School complex. A proposal has been submitted for funds to extend the construction of such guides to additional parts of its nursing program. A logical extension of this effort would be the development of similar guides to individualize instruction in other health-related programs.

The University of Kentucky has an innovative organizational pattern which includes the community college system as a part of the university. The organization is clear but has not as yet produced the quality of coordination between junior college programs and university programs which should be possible through the pattern of organization.

5. Programs which had been institutionalized despite college dissatisfaction with the program design

Into the fifth category one might place the totality of x-ray technician programs housed in colleges to which site visits were made. Most of these programs have been operational within the colleges but there is considerable dissatisfaction with the program design. Most programs involve more than the usual two years. For example, City College of San Francisco has an x-ray technician program which is three years in length and has a 45 per cent attrition rate. Those completing the program have been extremely successful and it is strongly supported by chief radiologists and technologists. The total program consists, however, of 3,000 clinical hours.

College needs. During site visits the project coordinator questioned program directors and administrators about conditions under which

they could perform additional or new demonstration or dissemination functions. In each situation the needs were similar: research assistance, recovery of partial salary of individual who would coordinate demonstrations, and extra secretarial assistance to handle technical arrangements. While colleges recognized that their commitment was not binding, each school visited indicated its interest in utilizing other demonstration centers and its willingness to be utilized as a demonstration center.

Designation of Needed Health Technology Occupational Areas for Which Few or No Satisfactory Programs Are Now Available

The Guide for Health Technology Program Planning (developed and disseminated under Grant No. OEG-1-6-062355-1928, Project No. 6-2355) was designed around the thesis that sound health technology programs could be built in two year colleges to the extent that health practitioner associations, health facilities and colleges cooperatively planned educational programs. It was clear at that time (1967) that colleges often proceeded with program planning in those areas where medical leadership had given some indications that associate degree graduates would be welcomed and used effectively as part of the health team.

Health practitioner association assistance to the development of health technology programs may take many forms. The associations may: (1) indicate an acceptance of and need for personnel educated in two year college technical programs; (2) define program requirements to insure the maintenance of quality performance in their field; (3) assist colleges in program planning and development. They may also carry on other activities which will further the development of health technology programs in two year colleges. The Guide for Health Technology Program Planning lists thirteen potential activities of health practitioner associations which could strengthen program planning. Most of the other activities depend, however, upon these three and these are most directly connected with extending the quality and quantity of health related programs in two year colleges.

This report attempts to classify health practitioner associations according to their current activities which might contribute to any network of health-related demonstration programs in junior or community colleges. The following categories are cumulative from the first level to the sixth. Those associations listed at one of the higher levels of program diffusion potential have accomplished the tasks indicated for each previous level. This indication of level of task performance relates only to association activities connected with two year college technical programs. The categories used are an amplification of the three tasks above:

1. Associations not accepting the need for personnel educated in two year college technical programs. Within this category

is the American Pharmaceutical Association. Undoubtedly many other groups might be listed in this same category but APA is an example of an association which, while continuing to explore all approaches to the personnel problem, has not as yet accepted the need for academic orientation of sub-professionals.

2. Associations which have indicated the acceptance of and need for personnel educated in two year college technical programs. This would include such groups as the American Academy of Pediatrics, the American Osteopathic Association, the Society of Public Health Educators, and the National Association of Social Workers. Individual professionals and subgroups of these associations have assisted community colleges in planning some two year technical programs related to their fields. These associations have, for a great variety of reasons, not moved to the next step of accepting any defined requirements for technical programs. This makes program planning by the two year college more uncertain and probably indicates that there will be greater recruitment and placement problems.

3. Associations which have defined requirements for technical-level personnel. The National Committee for Careers in Medical Technology and the American Association of Junior Colleges have just published a guide for planning medical laboratory technician programs. The organizations relating to program approval and to certification of medical laboratory technicians are making increased attempts to provide comprehensive assistance to colleges. The American Dietetic Association has recently developed a two year curriculum guide in institutional food service supervision. Existing programs in junior colleges are more related to hotel management needs than to hospitals or nursing homes. The guidelines for health-related food service supervision may need reconsideration. It is for this reason that the dietetic association activities are classified within this category.

4. Associations which have given assistance to an experimental technical program in the two year college setting or have helped to plan several such experimental programs. This category would include such groups as the American Academy of Orthopaedic Surgeons, the National Association of Sanitarians and the American Orthotic and Prosthetics Association. While these Associations have worked to define the general requirements for technical level personnel, the experimental programs exist to assist with the task for further delineating the problems of translating those requirements into programs.

5. Associations which have assisted colleges in the planning and development of pilot programs. For example, the American Physical Therapy Association, through its national and state

units, has helped a number of colleges develop pilot programs around general requirements which were defined by association action. These programs have not been in existence for a sufficient period of time to be evaluated, but evaluation machinery is available.

6. Associations which have given comprehensive assistance to college health-related technical programs. Within this grouping would be the American Medical Association, the American Dental Association, the National League for Nursing, the American Society of Medical Technologists and the American Society of Clinical Pathologists (particularly in relation to Certified Laboratory Assistant Programs and Cytotechnology programs), the American Occupational Therapy Association, the American Society of Radiological Technologists and the American College of Radiology, the American Association of Inhalation Therapists, the American Association of Medical Record Librarians, the American Association of Dental Assistants, and the American Dental Hygiene Association.

Areas represented by professional associations named within the first four classifications are those for which few or no satisfactory junior college level programs exist. As indicated in the previous section of this report, many of the programs preparing x-ray technicians (preparing technicians for this field by a host of other names) are unsatisfactory from the viewpoint of duration of the total program and often lack desired integration of clinical and academic work. Most colleges would hesitate to begin programs under present circumstances in spite of studies showing a great need for personnel. There is also a great diversity in mental health technician programs. While these programs have prospered in some states, they are noticeably absent in others in spite of great need for personnel. One factor may be the lack of any one professional association to be used by colleges as a reference point, thus making program planning a constant process of invention.

CONCLUSIONS AND RECOMMENDATIONS

This project explored the feasibility of selecting demonstration centers and of disseminating both the process and the problem solutions used by these centers in building model health technology education programs. It was assumed that programs and practices should not only be conceived, but adequately designed for use and institutionalized in one setting before a particular college could be helpful to other institutions. Utilizing this assumption, site visits to a selected sample of colleges recommended as having strong health-related programs

revealed that their programs were in various stages of readiness to serve a demonstration function. While the sampling of recommended programs used for site visits was severely limited by time and funds, the Advisory Committee felt that the range of programs and practices was characteristic of those colleges building multiple programs in the health field.

The examination of network possibilities as well as selection for site visitation was limited to colleges with three or more health programs with one exception--the inclusion of a college which had served a demonstration function for associate degree programs in nursing but which had no other health technology programs. This limitation was imposed because continuing federal encouragement of multiple programs seemed probable and health manpower needs in most communities dictate that multiple programs will be a goal for most of the developing junior colleges. From the standpoint of information dissemination, it appeared most practical to consider whether or not there was a network of colleges which might provide insights concerning a range of programs.

A Base for Demonstration Activities

If the programs visited are representative of the others which were recommended, graduates are employable, colleges use established checkpoints of accrediting agencies, health facility administrators and health practitioner association members are involved in the college programs, there is interest in and dedication to occupational programs, there is flexibility in relation to new trends. Program attrition rates have various meanings because of differences in admission policies, differences in the availability of alternative programs, and because practices of "temporary" withdrawal from programs are more common among lower socioeconomic groups. The colleges are generally involved in future planning for expansion of health related programs, advisory committees are utilized well, and ideas for the improvement of programs are sought. There is typically little documentation of past program planning. Nursing area programs and dental area programs are usually the oldest, the strongest, and have the highest enrollments. Faculty from these areas have often taken the leadership in helping to develop other health related programs. Among those colleges visited, only one nursing and one dental center were classified as currently performing a demonstration function. This was a relative classification, however, and most of the institutions had associate degree nursing programs or single dental programs which could provide much assistance to other institutions beginning programs. They would merely need to make additional efforts to plan dissemination procedures. All but one of the institutions visited had plans for extending their health related program offerings, thus indicating potentially extensive use of centers which develop demonstration programs in other health areas. It should be remembered that colleges which had three or more health related programs constituted the bulk of the colleges in the sample.

Colleges or programs currently performing a demonstration function need minimal financial help to improve their dissemination activities. To relieve the growing burden of demonstration, extra secretarial assistance and reimbursement for coordination responsibilities are necessary or programs will suffer. Research assistance to help plan, document and evaluate different patterns of demonstration and dissemination would appear to be an economic use of a scarce resource.

Extension of Demonstration Function

Most impressive for the future of health manpower is the evidence that colleges are developing programs in other than the now traditional technical areas of nursing and dentistry. In the newer areas there is tremendous potential for development of the capacity to serve a dissemination function. Colleges which have begun relatively innovative health-related programs, which as yet have no program graduates, could readily be converted into valuable demonstration centers if minimal research assistance could provide better intermediate program evaluation and better documentation of the actual learning experiences of the initial group of students. The same research assistance for documentation is needed in relation to innovative practice within health related programs. This is described as minimal assistance because in these "recommended" colleges sampled through site visits, the programs and practices were installed only after extended periods of study, group decision-making and consultation. Their experience, if documented, could be of great value in speeding new program development in other colleges. Colleges which are relatively new and have a significant start on multiple health programs could make a unique contribution to understanding of the process of health-related program development in the context of total institutional development. These colleges would need more research assistance than the first group but such would again appear to be an economical means of dissemination when community or junior colleges are being created at the rate of one new college each week. Colleges which have proposed relatively innovative programs or practices have often been hampered by lack of faculty time, delays in obtaining consultation from health practitioner associations, and lack of money to design ideas for trial. In this instance more extensive assistance would need to be given before dissemination is practicable. In some cases help is necessary in preparing grant requests and in contacting the most logical funding source.

Where colleges have institutionalized programs despite dissatisfaction with program design, devices are necessary to ease communication between overburdened staffs of national health practitioner associations and colleges.

As a result of this investigation, it is a reasonable hypothesis that colleges with health related programs recommended by the process utilized in this study would have some programs already serving a demonstration function, more which could move to this status readily

with minimal assistance, and other program areas to which much had already been contributed but which needed greater input before the colleges could be helpful to program development in other institutions.

Extending Technical Education in Health-Related Areas

Another conclusion of this investigation is that eight areas of health practice have indicated a definite need for technical level personnel prepared at the junior college level but currently are not able to give the comprehensive assistance needed to encourage rapid development of college programs. Many health practitioner associations have available comprehensive systems of assistance but they report great difficulty in keeping up with the requests of junior colleges for advice, evaluation help, and personal consultation. The combination of these factors appears to have discouraged some colleges from approaching programs and caused planning delays of two or three years' duration in other instances. It is reasonable to assume that other professional groups not contacted in the course of this investigation will come to recognize the need for supportive personnel who could best be prepared in two year colleges. Because national health practitioner associations vary in staffing potential, state and regional organizational capabilities and past experience in this area, every device to help them contact a more limited number of "key" colleges would be welcomed and should be helpful in stepping up the contribution to two year collegiate health programs needed to overcome health personnel shortages.

There are other areas where technical assistance is not directly related to single professional groups. Mental health and environmental health are examples of such. Programs in these areas have been slow to develop despite increasing evidence of personnel needs. Some way of establishing unified basic essentials appears to be needed in order to assist colleges in program development.

The conclusions of twenty-one health professional associations and three voluntary health agencies meeting together at the National Health Council's headquarters pointed to problems which any network of demonstration centers should pioneer in solving if it wanted to make a significant contribution to health manpower personnel needs: achieving inter-professional organization cooperation, achieving inter-junior college cooperation, creating flexibility in scheduling of programs, providing greater lateral and vertical mobility, generating information on the impact of varying administrative patterns and educational philosophies. This investigation supported the point of view that individual colleges could undertake such projects only rarely. As developing institutions with growth problems and commitments to meet immediate community needs, they are daily generating data which could apply to these unanswered problems posed by the health professional associations but are currently in no position to effectively

research the relevance of the data for solutions. Solutions depend upon some additional coordinating mechanism.

One other conclusion can be drawn in relation to the feasibility of locating institutions with good demonstration potential. In the absence of hard criteria which could be self-reported by colleges, the process used in this study made available a pool of colleges which, from the site-visit sampling, had programs or program elements which could be useful in serving a demonstration function if varying amounts of input were added.

Summary and Recommendation

In summary, a good potential network of demonstration centers exists. For maximal results it requires a mechanism which could tie present innovative elements into a dissemination system. Such a system would need to provide for controlled and coordinated input to colleges and to health practitioner associations. The system should (1) provide for sharing scarce research personnel, (2) seek to help health practitioner associations extend their available services, and at the same time, (3) provide an instrumentation for disseminating information and sharing contributions to program development. For example, a network of demonstration centers in nursing could be established with relative ease, as could a smaller network of programs allied with dentistry. The value, however, of establishing such separate networks would be far less than could accrue from tying a multiplicity of health program areas into one system. A dissemination system is feasible and necessary to approach such overarching problems as the creation of more generic technical programs, improved coordination of clinical and academic aspects of all programs, development of meaningful health teams-in-training, across-the-board recruiting, and the extension of a variety of opportunities to disadvantaged students whose occupational goals may be indefinite.

APPENDIX A

ADVISORY COMMITTEE

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Appendix B
Colleges Classified by Public Health Regions

PUBLIC HEALTH SERVICE REGIONS

I. Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermcnt.

II. New Jersey, New York, Puerto Rico, Virgin Islands.

III. District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia.

IV. Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, Tennessee, Kentucky.

V. Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin.

VI. Texas, Arkansas, Louisiana, New Mexico, Oklahoma

VII. Iowa, Kansas, Missouri, Nebraska.

VIII. Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming.

IX. California, Arizona, Hawaii, Nevada.

X. Washington, Alaska, Idaho, Oregon.

Name of College	# of Recommendations	Other Programs	Dental: Asst	Dental: Hyg Tech	Inhal. Therap.	Food Serv Tech	Medical: Lab Asst	Medical: Rec Tech	Medical: Secy	Mental Health Tech	Asst: OT	Asst: PT	X-ray Tech	Surg Asst Tech	Nursing: AD	Nursing: LPN	Nursing: Aide
CONNECTICUT																	
Jr.Coll.of Conn., Bridgeport	1			65					18							72	
Manchester Comm. Coll.,Manchester					9		43				14			16			
Quinnipiac Coll. Hamden	1	Cytotech 50 Cardio-Pulm. 8							33				20				
MAINE																	
Westbrook Jr.Coll. Portland				66			40		32							49	
MASSACHUSETTS																	
Endicott Jr.Coll. Beverly									20		7	11				9	
Holyoke Comm.Coll. Holyoke		Environ. Hlth.Tech.							32				x			x	
Mass.Bay Comm.Coll. Watertown		Day Care 40 Electron. Tech 41							22								
North Shore Comm. Coll.,Beverly		Environ. Hlth. 31							25				30	98	52		
Springfield Tech. Comm. Coll., Springfield	2	Biomed.Eng. Tech 21	42		6		27	20		27	26		25		24		
RHODE ISLAND																	
Rhode Island Jr. Coll., Providence	2			x			x						x		x		
VERMONT																	
Univ.of Vermont	3		x				x						x		x		

Name of College	# of Recommendations	Other Programs	Dental Asst	Dental Hyg Tech	Inhal. Therap.	Food Serv Tech	Medical Lab Asst	Medical Lab Tech	Medical Rec Tech	Medical Sec'y	Mental Health Tech	Asst. OT	Asst. PT	X-ray Tech	Surg Asst Tech	Nursing AD	Nursing LPN	Nursing Aide
NEW JERSEY																		
Atlantic Comm. Coll.,Mays Landing					5												64	
Camden Jr.Coll. Camden	1																	
Centenary Coll., Hackettstown		Cyto-tech. 1		1														
Essex Cty.Coll., Newark	2								10	10							120	
Middlesex Cty. Coll.,Edison	3																	
NEW YORK																		
Broome Tech. Comm.Coll., Binghamton	1	Env.Hlth Tech. 24		84				33	38					31			87	
Bronx Comm.Coll., Bronx	1							33		15				34			249	
Cobbleskill Agr. & Tech.Inst., Albany	2	Food Services																
Corning Comm. Coll.,Corning								6		24							121	
Dutchess Comm. Coll.,Pough-keepsie	2		23				15										90	
Erie Comm.Coll., Buffalo	4	Optic & Oph. 109		179				150		169		58						
Funkton Cty.Jr. Coll.,Amsterdam	1	Hosp.Adm.			x													
Genessee Comm. Coll.,Batavia	2																	
Hudson Valley Comm.Coll.,Troy	1	P.H.Tech 29	26	107				84		48				32			126	
Manhattan Comm. Coll.,New York	3	Tech.: Med. Emerg.60 Soc. Serv. 60			70				65		45						250	

Name of College	# of Recommendations	Other Programs	Dental: Asst	Dental: Hyg Tech	Inhal. Therap.	Food Serv Tech	Medical: Asst	Medical: Lab Tech	Medical: Rec Tech	Medical: Secy	Mental Health Tech	Asst. OT PT	X-ray Tech	Surg Asst Tech	Nursing: AD	Nursing: LPN	Aide
NEW YORK (Contd.)																	
Mohawk Valley Comm.Coll., Utica			36				33			25					92		
Monroe Comm. Coll., Rochester	3	Biomed. Eng. Tech. 10		96				47	43				32		220		
Morrisville Agr.& Tech. Coll.		Env.Hlth. Tech. 36						105							128	64	
Nassau Comm. Coll.,Garden City	1				30			50		32				18	250		
New York City Comm. Coll., Brooklyn	2																
North Country Comm.Coll., Lake Saranac		Biol.Lab. Tech. 17								12 12			30 30			26 26	
Rockland County Comm.Coll.	1																
SUNY Agri. & Tech. Coll., Alfred	6							129	49	59					102		
SUNY Agri. & Tech. Coll., Delhi	1	Hlth.Serv. Mgmt. 11				61 61										20	
SUNY Arts Coll., Canton		Day Care 45						9	74						41		
SUNY, Farmingdale		Soc. Serv.125		175				25		25					200		
Staten Island Comm.Coll., Staten Island	2																
Stonybrook Jr. Coll.,Long Island	1																
Suffolk Comm. Coll.,Selden, L.I.	1	Soc. Serv.30								25		25			110		

Name of College	# of Recommendations	Other Programs	Dental Asst	Dental Hyg Tech	Inhal. Therap.	Food Serv Tech	Medical Lab Asst	Medical Rec Tech	Medical Rec Secy	Mental Health Tech	Asst. OT	Asst. PT	X-ray Tech	Surg Asst Tech	Nursing AD	Nursing LPN	Nursing Aide
NEW YORK (Contd.)																	
Westchester Comm. Coll.,Valhalla					5	22		20	22							35	
PUERTO RICO																	
Arecibo Regional Coll.	1															x	
Humacao Regional Coll.	1	Soc. Serv.70									20	20				x	
Puerto Rico Jr. Coll.	1															x	
Univ.of Puerto Rico,Mayaguez Campus	1																x

Name of College	# of Recommendations	Other Programs	Dental: Asst	Dental: Hyg	Dental: Tech	Inhal. Therap.	Food Serv Tech	Medical: Lab Asst	Medical: Lab Tech	Medical: Rec Tech	Medical: Secy	Mental Health Tech	Asst. OT	Asst. PT	X-ray Tech	Surg Asst Tech	Nursing: AD	Nursing: LPN	Nursing: Aide
MARYLAND																			
Baltimore Comm. Coll.	2																		
Catonsville Comm. Coll.,Catonsville	4	Tech: Bacti.7 Chem. 7									26	24						26	
Charles Cty.Comm. Coll.,LaPlata	1	Environ. Control																	
Essex Comm. Coll., Baltimore County	5	Day Care 40 SocServ 10									4	12						30	
Montgomery Coll., Takoma Park	1			41						19	21				22			60	
PENNSYLVANIA																			
Allegheny Campus, Pittsburgh	2	Pedology 27						12	66	21									
Harcum Jr. Coll., Bryn Mawr								13	10		21								
Harrisburg Area Comm.Coll., Harrisburg	1																		
Lehigh Cty.Comm. Coll.,Schnecksville				20				21				8						60	
Manor Jr. Coll., Jenkintown								5	5		8								
Mount Aloysius Jr. Coll., Cresson									16		30		52				19		
Northampton Comm. Coll.,Bethlehem	2																		
Philadelphia Comm. Coll., Philadelphia	3																		
Williamsport Area Comm.Coll., Williamsport							8								13			65	

Name of College	# of Recommendations	Other Programs	Dental: Asst	Dental: Hyg Tech	Inhal. Therap.	Food Serv Tech	Medical: Lab Asst	Medical: Rec Tech	Medical: Tech Secy	Mental Health Tech	Asst. OT	Asst. PT	X-ray Tech	Surg Asst Tech	Nursing: AD	Nursing: LPN	Nursing: Aide
VIRGINIA																	
College of Virginia		Day Care 45							30							55	
Northern Virginia Comm.Coll., Annandale	1	Nursing Program															

Name of College	# of Recommendations	Other Programs	Dental: Asst	Dental: Hyg Tech	Inhal. Therap.	Food Serv Tech	Medical: Lab Asst	Medical: Lab Tech	Medical: Rec Tech	Medical: Secy	Mental Health Tech	Asst. OT	Asst. PT	X-ray Tech	Surg Asst Tech	Nursing: AD	Nursing: LPN	Nursing: Aide
ALABAMA																		
Jefferson State Jr.Coll., Birmingham	2				6	15		20	8		10	15		20		50		
FLORIDA																		
Broward Jr.Coll., Ft.Lauderdale	2	Resp.Ther. Tech. 20					74			4				23		147		
Central Fla. Jr. Coll., Ocala		Radiol. Hlth. 30								11						58		7
Daytona Beach Jr. Coll.,Daytona Beach	2	Hosp.Ward Cl. 15													10	112	50	26
Florida Jr.Coll., Jacksonville						48	43	36							38	201	105	50
Indian River Jr. Coll.,Ft.Pierce																59	10	47
Manatee Jr. Coll., Bradenton	2		x													158	x	
Miami-Dade Jr. Coll., Miami	6	Opt.& Oph. 28 Respir. Ther.15 Hosp.Food Super.15						12	11	12	33	14	15	33		235		
Palm Beach Jr. Coll.,Lake Worth	3	Planning: OT,PT, X-ray	41	74	26		35									157		
Pensacola Jr. Coll., Pensacola	1	Hosp.Ward Cl. 10	20	45												60	80	
Polk Jr. Coll., Winterhaven		Soc. Serv.40						12	8							120		
St.Petersburg Jr. Coll.,St. Petersburg	5	Hlt.Care Mgmt. Aide 15		76												257		
Santa Fe Jr.Coll., Gainesville	2													26		42	38	

Name of College	# of Recommendations	Other Programs	Dental: Asst	Dental: Hyg	Dental: Tech	Inhal. Therap.	Food Serv Tech	Medical: Asst	Medical: Lab Tech	Medical: Rec Tech	Medical: Secy	Mental Health Tech	Asst. OT	Asst. PT	X-ray Tech	Surg Asst Tech	Nursing: AD	Nursing: LPN	Nursing: Aide
GEORGIA																			
Dalton Jr. Coll., Dalton	1	Multiple Program Developing																	
KENTUCKY																			
Elizabethtown Comm.Coll.																		x	
Hopkinsville Comm.Coll., Hopkinsville		Planning AD Nursing Soc.Serv.									5	12							
Lexington Tech. Inst., Lexington	2	EEG Tech Nursing Resp.Ther. Radiol. Tech.			x														
Northern Comm. Coll.	1																	x	
Somerset Comm. Coll., Somerset	2	Planning AD Nursing							12		10	14							
MISSISSIPPI																			
Davis,Jefferson Campus, Handsboro																	47	47	44
Hinds Jr. Coll., Raymond				8					6				10	19			42	191	159
Itawamba Jr.Coll., Tupelo	15	Home Hlth. Aide 10									10			10				45	
Jackson Cty.Coll., Gautier													17	10			28	33	
Northwest Jr. Coll., Senatobia				2					6	2							5		
NORTH CAROLINA																			
Caldwell Tech. Inst.,Lenoir	1	Recreat. Therapy Tech. 12									3							39	

Name of College	# of Recommendations	Other Programs	Dental Asst	Dental Hyg Tech	Inhal. Therap.	Food Serv Tech	Medical Lab Asst	Medical Rec Tech	Medical Secy	Mental Health Tech.	Asst. OT PT	X-ray Tech	Surg Asst Tech	Nursing AD	Nursing LPN	Nursing Aide
NORTH CAROLINA (Contd.)																
Cape Fear Tech. Inst., Wilmington		Day Care 47 Nurs.Home Aide 30 Hosp.Ward Cl. 45			34	80		44					12		18	150
Central Piedmont Comm. Coll., Charlotte	1	Med.Ofc. Asst.38	37	78					33		13			125	93	
Clinton Tech. Inst.,Clinton		Hosp.Ward cl/Sec 12													15	6
Fayetteville Tech. Inst.,Fayetteville	1															
Guilford Tech. Inst.,Jamestown		R.N. Proposed	18	17					22							44
Holding,W.W., Tech.Inst., Raleigh	1															
Lenoir Rhyne Coll. Hickory	1	Nursing														
McDowell Tech. Inst.,Marion	1	Hosp. Maint.							x							
Pitt Tech.Inst., Greenville		Day Care 14 Hosp.Ward Cl. 15				25			9		15					
Rowan Tech.Inst., Salisbury									20					45		
Sandhills Comm. Coll.,Southern Pines		Hosp.Ward Cl. 18 Psy.Aide 15								18		49			60	
Wayne Comm.Coll., Goldsboro	1															

Name of College	# of Recommendations	Other Programs	Dental: Asst	Dental: Hyg	Dental: Tech	Inhal. Therap.	Food Serv Tech	Medical: Lab Asst	Medical: Lab Tech	Medical: Rec Tech	Medical: Secy	Mental Health Aide	Asst. OT PT	X-ray Tech	Surg Asst Tech	Nursing: AD	Nursing: LPN	Nursing: Aide
NORTH CAROLINA (Contd.)																		
Western Piedmont Comm.Coll., Morgantan	1	Day Care 12 Nurs.Home Aide 220						6	6		18						48	
SOUTH CAROLINA																		
Greenville Tech. Ed.Center, Greenville	1	Cert.Lab Asst.25	22	22	20						10							20
Richland Tech. Ed.Center, Columbia	2	Comm. & Ment.Hlth 20 Home Hlth Aide 25		50							10							

Name of College	# of Recommendations	Other Programs	Dental: Asst	Dental: Hyg Tech	Inhal. Therap.	Food Serv Tech	Medical: Asst	Medical: Lab Tech	Medical: Rec Tech	Medical: Secy	Mental Health Aide	Asst. OT	Asst. PT	X-ray Tech	Surg Asst Tech	Nursing: AD	Nursing: LPN	Nursing: Aide
ILLINOIS																		
Belleville Jr. Coll., Belleville	3																x	
Central YMCA Comm. Coll., Chicago		Hosp.Ward Cl. 5 Soc.Serv Tech. 20			35		40	30	5		40			12				
Chicago City Coll.:																		
Amundsen-Mayfair Campus																		
Crane Campus	1	12 aide programs																
Southeast Campus	3																	
Elgin Comm. Coll., Elgin		Residential Child Care 20	12													104		
Illinois Central Coll., East Peoria	3								9		13			9		43		
Illinois Valley Comm. Coll., LaSalle	1																	
Moraine Valley Comm. Coll., Worth	3						20					20		7				
Morton Jr.Coll., Cicero	1																	
Parkland Coll., Champaign			22	12										12		45		
Prairie State Coll.,Chicago Heights			18	32							12					59		
Rock Valley Coll., Rockford			25		16						6					20		

Name of College	# of Recommendations	Other Programs	Dental: Asst	Dental: Hyg Tech	Inhal. Therap.	Food Serv Tech	Medical: Lab Asst	Medical: Rec Tech	Medical: Secy	Mental Health Aide	Asst. OT	Asst. PT	X-ray Tech	Surg Asst Tech	Nursing: AD	Nursing: LPN	Nursing: Aide
ILLINOIS (Contd.)																	
Sandburg, Carl Coll., Galesburg									10				10				30
Sauk Valley Coll., Dixon		F.T.: P.T.:						4 1					11 2		22 8		20 5
Springfield Coll. in Illinois, Springfield		Respiratory Ther. Tech.			x			x									
Thornton Comm. Coll., Harvey	1	Soc. Serv. 43					16	6	2	1					103		
Triton Coll., River Grove	2	Recreat. Lead. 16	4		19				8				12		130		96
INDIANA																	
Indiana Voc. Tech. Coll., Indianapolis		Hosp.Ward Cl. 18 Nurs.Home Aide 18						14	42				25	56	215		
Vincennes Univ. Jr.Comm.Coll., Vincennes	1														x		x
MICHIGAN																	
Delta Coll., Saginaw	1							x									
Ferris State Coll., Big Rapids	2	Dental Auxiliary Programs															
Flint Comm.Jr. Coll., Flint	1		17	37					8						214		164
Grand Rapids Jr. Coll., Grand Rapids		Day Care 15	35			12			8						44		130
Highland Park Coll., Highland Park	1	Certified Lab.Assts. 5		21	7			40							78		

Name of College	# of Recommendations	Other Programs	Dental		Inhal. Therap.	Food Serv Tech	Medical			Mental Health Aide	Asst.		X-ray Tech	Surg Asst Tech	Nursing	
			Asst	Hyg Tech			Lab Asst	Rec Tech	Tech Secy		OT	PT			AD	LPN Aide
MICHIGAN (Contd.)																
Kellogg Comm. Coll., Battle Creek	1	Assoc. RN's Env.Hlth.	x				x						x		x	
Lake Michigan Coll., Benton Harbor							3		10						26	
Lake Superior State Coll., Sault Ste. Marie	1	Assoc. RN's Env.Hlth.	x				x						x		x	
Lansing Comm. Coll. Lansing	1	Assoc.RN Env.Hlth	x				x						x		x	
Macomb County Comm.Coll., Center Campus, Mt.Clemens	1	F.T.:	15		9		21		15						23	
		P.T.:	13		6		14		--						43	
Muskegon Comm. Coll., Muskegon			15													77
North Central Michigan Coll.					2			3							63	
Northern Michigan Coll., Marquette	1	Assoc.RN Env.Hlth	x				x						x			x
Northwestern Michigan Coll., Traverse			12						10						62	70
Oakland Comm. Coll.,Auburn Hills Campus, Bloomfield			67			42	29	53	2						307	
Oakland Comm. Coll., Pontiac	1	Assoc.RN Env.Hlth.	x				x						x			x

Name of College	# of Recommendations	Other Programs	Dental: Asst	Dental: Hyg Tech	Inhal. Therap.	Food Serv Tech	Medical: Lab Asst	Medical: Lab Tech	Medical: Rec Tech	Medical: Secy	Mental Health Aide	Asst. OT	Asst. PT	X-ray Tech	Surg Asst Tech	Nursing: AD	Nursing: LPN	Nursing: Aide
MICHIGAN(Contd.)																		
Schoolcraft Coll. Livonia						24			7	20		19				48	24	
Washtenaw Comm. Coll., Ann Arbor	1		10		15									14				
MINNESOTA																		
Anoka Voc. School	2											x						
Minneapolis Area Voc.Tech. School, Minneapolis	1																	
Rochester State Jr. Coll., Rochester	1							12		24						206		
St. Mary's Jr. Coll., Minneapolis	7	Child Development	27		27			28	19	8		49	33			322		
St. Paul Tech. Voc. Inst., St. Paul	1																	
OHIO																		
Cuyahoga Comm. Coll., Cleveland	3	Cert. Lab.Asst	25	40			48			30						240		
Cuyahoga Comm. Coll.,Western Campus, Parma					50		30								20			
Kettering Coll. of Medical Arts,Kettering					14		2		5					7		133		
Lorain County Comm.Coll.		OR Tech	12	14		17										73		
University of Cincinnati, Cincinnati	1	Med.Radio-isotope Tech.	5	45	5					40				2		80		

Name of College	# of Recommendations	Other Programs	Dental: Asst	Dental: Hyg Tech	Inhal. Therap.	Food Serv Tech	Medical: Asst	Medical: Lab Tech	Medical: Rec Tech	Medical: Secy	Mental Health Aide	Asst. OT PT	X-ray Tech	Surg Asst Tech	Nursing: AD	Nursing: LPN	Nursing: Aide
WISCONSIN																	
Madison Area Tech. Coll., Madison	1		42	23			41	16		8		18				117	17
Milwaukee Tech. Coll., Milwaukee		Env.Hlth. Tech. 2 Child Day Care 16 Cert.Med. Asst. 41	45		17	13	45			18					97	199	51
Western Wisconsin Tech. Inst., LaCrosse			24			11	27			18						60	

Name of College	# of Recommendations	Other Programs	Dental: Asst	Dental: Hyg Tech	Inhal. Therap.	Food Serv Tech	Medical: Lab Asst	Medical: Rec Tech	Medical: Tech Secy	Mental Health Aide	Asst. OT PT	X-ray Tech	Surg Asst Tech	Nursing: AD	Nursing: LPN	Nursing: Aide
ARKANSAS																
Arkansas Baptist Med. Center, Little Rock	1	Nursing Med.Tech. Radiologic. Tech.														
St.Vincent's Infirmary, Little Rock	1	(Same as above)														
OKLAHOMA																
St. Gregory's Coll.,Shawnee				10			10	10								
TEXAS																
Amarillo Coll. Amarillo	1			12				24	36			24		27	85	40
El Centro Coll. Dallas		Tech.: Cent.Serv. 5 Radiol. 8 Respir. Therap.21														
Galveston Coll., Galveston	3													73	40	
Lee Coll., Baytown		Beginning:						x	x							
McLennan Comm. Coll., Waco		Hosp.Ward Cl. 58												67		302
Odessa Coll., Odessa		Lic.Voc. Nurs. 60			10			15			15			60		
San Antonio Coll., San Antonio				91	9		74							398		
South Texas Jr. Coll., Houston					15				18							
Tarrant County Jr. Coll., Ft. Worth	2															

Name of College	# of Recommendations	Other Programs	Dental: Asst	Dental: Hyg Tech	Inhal. Therap.	Food Serv Tech	Medical: Lab Asst	Medical: Rec Tech	Medical: Tech Secy	Mental Health Aide	Asst.: OT	Asst.: PT	X-ray Tech	Surg Asst Tech	Nursing: AD	Nursing: LPN	Nursing: Aide
TEXAS (Contd.)																	
Texarkana Coll., Texarkana		Pending: Cent.Serv. Tech.													97	47	8
Univ. of Texas at Galveston, School of Allied Health Sciences, Galveston	1																

Name of College	# of Recommendations	Other Programs	Dental: Asst	Dental: Hyg Tech	Inhal. Therap.	Food Serv Tech	Medical: Asst	Medical: Lab Tech	Medical: Rec Tech	Medical: Secy	Mental Health Aide	Asst. OT	Asst. PT	X-ray Tech.	Surg Asst Tech	Nursing: AD	Nursing: LPN	Nursing: Aide
IOWA																		
Area Ten Comm. Coll., Cedar Rapids	1	Env.Hlth. Tech 11	31	10			32					11					80	
Des Moines Area Comm. Coll., Ankeny			22				22	20							20		120	60
Eastern Iowa Comm. Coll., Davenport		OR Tech 12						30									70	
Iowa Central Comm. Coll., Ft. Dodge							19									57	22	
Iowa Central Comm. Coll., (Area 4) Ft. Dodge	1						21									65	32	50
Iowa Tech. Merged Area XV, Comm. Coll., Ottumwa	1																	
Iowa Western Comm. Coll., Council Bluffs	1	OR Tech 10	11				15						9			20	81	14
North Iowa Area Comm. Coll., Mason City	1																	
Southeastern Iowa Area Comm.Coll. Burlington	1	A.D. Fall 1969					14	9									30	
KANSAS																		
Dodge City Comm. Coll., Dodge City		Hosp.Ward Cl. 20															45	30
Garden City Comm., Coll., Garden City	1													x				

Name of College	# of Recommendations	Other Programs	Dental Asst	Dental Hyg Tech	Inhal. Therap.	Food Serv Tech	Medical Lab Asst	Medical Rec Tech	Medical Tech Secy	Mental Health Aide	Asst. OT PT	X-ray Tech.	Surg Asst Tech	Nursing AD	Nursing LPN	Nursing Aide
KANSAS (Contd)																
Labette Comm. Jr. Coll., Parsons	1														x	
MISSOURI																
Crowder Coll., Neosho		Home Hlth. Aide 8				6									12	
Forest Park Comm.Coll., St.Louis	4		30	49	5	8	24	29				25		153		
Jr. Coll. Dist., St. Louis-St. Louis County	2	F.T.:	40	14		4	15	21				17		336		
		P.T.:	13	8		3	4	5				4		295		
Metropolitan Jr. Coll. Dist., Kansas City	1		37		17										54	
Three Rivers Jr. Coll.	1			x												

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Name of College	# of Recommendations	Other Programs	Dental: Asst	Dental: Hyg Tech	Inhal. Therap.	Food Serv Tech	Medical: Lab Asst	Medical: Lab Tech	Medical: Rec Tech	Medical: Secy	Mental Health Aide	Asst. OT PT	X-ray Tech	Surg Asst Tech	Nursing: AD	Nursing: LPN	Nursing: Aide
COLORADO																	
Arapahoe Jr.Coll., Littleton	1	Env.Hlth. 20					20		5	6						15	17
Comm. Coll. of Denver, Denver	2	Nuc.Med. Tech.	19		32								28		x	53	
Jr. Coll. Div., Southern Colo. State Coll.		Med.Tech. 17 DayCare 5									118				115	60	
Mesa Coll., Grand Junction	3	Day Care 14					17								53	14	30
Rangely Coll., Rangely	1			x													
MONTANA																	
Dawson Coll., Glendive	1																
Flathead Valley Comm. Coll., Kalispell	1																
Miles Comm.Coll., Miles City	1																
NORTH DAKOTA																	
Bismarck Jr.Coll., Bismarck	1									x							
Dickinson State Coll.	1														x		
Lake Region Jr. Coll., Devils Lake	1															x	
North Dakota State School of Science, Wahpeton	2		16	24												224	
SOUTH DAKOTA																	
Presentation Coll., Aberdeen	1						7	2		14					120		

Name of College	# of Recommendations	Other Programs	Dental: Asst	Dental: Hyg	Dental: Tech	Inhal. Therap.	Food Serv Tech	Medical: Lab Asst	Medical: Rec Tech	Medical: Tech Secy	Mental Health Aide	Asst.: OT	Asst.: PT	X-ray Tech	Surg Asst Tech	Nursing: AD	Nursing: LPN	Nursing: Aide
WYOMING																		
Sheridan Coll., Sheridan			2	24	2												15	

Name of College	# of Recommendations	Other Programs	Dental Asst	Dental Hyg Tech	Inhal. Therap.	Food Serv Tech	Medical Lab Asst	Medical Lab Tech	Medical Rec Tech	Medical Secy	Mental Health Aide	Asst. OT PT	X-ray Tech	Surg Asst Tech	Nursing AD	Nursing LPN	Nursing Aide
ARIZONA																	
Cochise Coll., Douglas	1								35	30						25	
Maricopa County Jr. Coll , Phoenix	3	Dent. Tech.											x			x	
CALIFORNIA																	
Bakersfield Coll., Bakersfield		Day Care 93	35				72								47	29	
Cabrillo Coll.		Bact. 6 Ward Cl30	45	55						38			20		40	26	
Chabot Coll., Hayward	2		45	17			65								85		
Chaffey Coll., Alta Loma			30							66			31		70	29	
Citrus Coll., Azusa			65				34									59	
City Coll. of San Francisco, San Francisco	1	Soc.Serv. Tech. 15	102		79		148		28				92		90		
Coll. of Marin Kentfield	1		35												69	45	
Coll. of the Desert, Palm Desert		Day Care 25				10				15					30	30	25
Coll. of the Redwoods, Eureka							20						6		26		
Columbia Jr.Coll., Columbia.		Day Care 30 Nurs.Home Aide 40														40	45
Compton Jr.Coll., Compton													5		60	30	
Contra Costa Coll.,San Pablo	1		21				28								57	35	18

Name of College	# of Recommendations	Other Programs	Dental			Inhal. Therap.	Food Serv Tech	Medical				Mental Health Aide	Asst.		X-ray Tech	Surg Asst Tech	Nursing		
			Asst	Hyg	Tech			Asst	Lab Tech	Rec Tech	Secy		OT	PT			AD	LPN	Aide
CALIFORNIA (Contd)																			
Diablo Valley Coll., Pleasant Hill	1		40	36	33			11									72		
East LosAngeles Coll., Los Angeles		Nursing (Transfer) 116				46			30	45			16				311	57	
El Camino Coll., El Camino	2	Day Care 41													19		101	43	
Foothill Coll., Los Altos Hills	1	Biol.& Hlth.Sc.	42	35		28									27				
Foothill Jr. Coll. Dist., Los Altos Hills	1	Prosthet. Tech. 2 Pediat. Asst.10	42	39		50		53			10				34		90	24	
Fresno City Coll., Fresno		Resp.Ther. Tech. 6				6	181			90	70				6				
Fullerton Comm. Coll.	1																		
Golden West Coll., Huntington Beach		Psychiat. Tech.45 Soc.Serv. Tech.15															95	75	
Grossmont Coll., El Cajon		Biomed. Eng.Tech. 16	62				84										49		
Grossmont Comm. Coll., El Cajon	1																		
Hancock, Allan Coll., Santa Maria		Home Hlth. Aide 40	45					30									24		
Laney Coll., Oakland		Home Hlth. Aide 40	35					40									105		
Loma Linda Univ., La Sierra Campus La Sierra	1																		
Long Beach City Coll., Long Beach	1	Home Hlth. Aide 30	30			30		30					30				140	120	

Name of College	# of Recommendations	Other Programs	Dental: Asst	Dental: Hyg	Dental: Tech	Inhal. Therap.	Food Serv Tech	Medical: Asst	Medical: Lab Tech	Medical: Rec Tech	Medical: Secy	Mental Health Aide	Asst. OT	Asst. PT	X-ray Tech	Surg Asst Tech	Nursing: AD	Nursing: LPN	Nursing: Aide
CALIFORNIA (Contd.)																			
Los Angeles City Coll., Los Angeles	1	Optic.& Oph. 10		50	75						50	70	40		70			100	
Los Angeles Trade-Tech. Coll., Los Angeles		HOC 21 Cent.Serv. Tech 51 Hosp.Ward Cl. 53 Nurs.Home Asst 34														23		136	
Los Rios Dist. Comm. Coll.	1																		
Merritt Coll., Oakland		Optometric Asst.12 Nurs.Home Aide 72													135			48	
Modesto Jr. Coll., Modesto		Cardio-Pulm. Asst.18		46			18		38		20							106	95 32
Mt. San Antonio Coll. Walnut	2	Day Care 76 Soc.Serv. Tech 42					70											114	113
North Orange Cty. Jr. Coll., Fullerton		DayCare 30 Nurs.Home Aide 156		48					40		30	30			60			70	60
Orange Coast Comm.Coll., Costa Mesa	2																		
Palomar Coll., San Marcos									25			20						25	
Pasadena City Coll.,Pasadena	2			24		15			16									12	47
Rio Hondo Jr. Coll.,		PH Tech 2 Bact. 3 DayCare 26		33	16				9				1	12	5			54	74 1

Name of College	# of Recommendations	Other Programs	Dental Asst	Dental Hyg	Dental Tech	Inhal. Therap.	Food Serv Tech	Medical Lab Asst	Medical Lab Tech	Medical Rec Tech	Medical Secy	Mental Health Aide	Asst. OT	Asst. PT	X-ray Tech	Surg Asst Tech	Nursing AD	Nursing LPN	Nursing Aide
CALIFORNIA (Contd.)																			
San Bernardino Valley Coll., San Bernardino																	60	30	
San Diego Coll., San Diego		Nurs.Home Aide 18	45					45		5					30			90	18
San Joaquin Delta Coll., Stockton		Lic.Voc. Nurses 99						24									112		9
San Jose City Coll., San Jose			60														104		
San Mateo Coll., San Mateo	1																		
Shasta Coll., Redding		Pre-nurs. 40		2				28		10							25	45	28
Sierra Coll., Rocklin		Lic.Voc. Nurses 30								15									30
Southwestern Coll., Chula Vista		Home Hlth. Aide 18											18				33	40	
Santa Barbara City Coll., Santa Barbara		Nurs.Home Aide 20						20							15		45	39	
Santa Monica City Coll., Santa Monica		Day Care 40			35												80	32	
Santa Rosa Jr. Coll., Santa Rosa			60					36									55	35	
Ventura Coll., Ventura	1																		
West Valley Coll.,Campbell						176		73										139	
HAWAII																			
Kapiolani Comm. Coll.,Honolulu			20					25										100	

Name of College	# of Recommendations	Other Programs	Dental Asst	Dental Hyg	Dental Tech	Inhal. Therap.	Food Serv Tech	Medical Lab Asst	Medical Rec Tech	Medical Tech Secy	Mental Health Aide	Asst. OT	Asst. PT	X-ray Tech	Surg Asst Tech	Nursing AD	Nursing LPN	Nursing Aide
ALASKA																		
Anchorage Comm. Coll., Anchorage			14					17									41	
OREGON																		
Clackamas Comm. Coll., Oregon City		Home Hlth Aide 14															20	
Lane Comm. Coll., Eugene		Nurs.Home Aide 36 Day Care 24	21	16		20										43	31	20
	1																	
Mt. Hood Comm. Coll., Gresham	1											18	14				18	
Portland Comm. Coll., Portland	3	Optometric Tech	60	x	50				12	28	15			x		80	40	
Salem Comm. Coll.,Salem			25					25								33	33	
Treasure Valley Comm.Coll., Ontario		Hosp.Ward Cl. 2	9			9											21	
WASHINGTON																		
Bellevue Comm. Coll.,Bellevue							15							21		19		
Clark Coll., Vancouver	1			21												67	25	
Everett Comm. Coll.,Everett	2															x		
Green River Comm. Coll.,Auburn	3											35	26				30	
Highline Comm. Coll., Midway	2	Cent.Serv. Tech. 7				18										90		
Olympic Coll., Bremerton	1															48	40	15
Seattle Comm. Coll.,Seattle	2	Optic.& Oph. 81	24		14			20									120	

Name of College	# of Recommendations	Other Programs	Dental: Asst	Dental: Hyg Tech	Inhal. Therap.	Food Serv Tech	Medical: Lab Asst	Medical: Rec Tech	Medical: Secy	Mental Health Aide	Asst. OT	Asst. PT	X-ray Tech	Surg Asst Tech	Nursing: AD	Nursing: LPN	Nursing: Aide
WASHINGTON (Contd.)																	
Shoreline Comm. Coll.,Seattle	1			24			13	35	7						204		
Skagit Valley Coll., Mt. Vernon	1															x	
Spokane Comm. Coll.,Spokane	1	Cardio-Pulm. Tech 34	43		23			23	29						125		40

APPENDIX C

SITE VISIT SCHEDULE

Date	Name of College and Location
8- 6-69	Manhattan Community College, New York, N. Y.
8-11-69	St. Petersburg Junior College, St. Petersburg, Fla.
8-11-69	Manatee Junior College, Bradenton, Fla.
8-12-69	Palm Beach Junior College, Lake Worth, Fla.
8-13-69	Broward Junior College, Ft. Lauderdale, Fla.
8-13-69	Miami-Dade Junior College, Miami, Fla.
8-14-69	Jefferson State Junior College, Birmingham, Ala.
8-15-69	University of Kentucky, Lexington, Ky.
8-18-69	Highline Community College, Midway, Wash.
8-19-69	Seattle Community College, Seattle, Wash.
8-20-69	City College of San Francisco, San Francisco, Calif.
8-21-69	Maricopa County Junior College, Phoenix, Ariz.
8-22-69	El Centro College, Dallas, Tex.
9- 4-69	Morton Junior College, Cicero, Ill.
9- 5-69	Chicago City College, Chicago, Ill.
9- 8-69	St. Louis - St. Louis County Junior College District St. Louis, Mo.

APPENDIX D

GUBA - CLARK MODEL

	Research	Development		Diffusion		Adoption		
		Invention	Design	Dissemination	Demonstration	Trial	Installation	Institutionalization
Objective	To advance knowledge	To formulate a new solution to an operating problem or to a class of operating problems, i.e., to innovate	To order and to systematize the components of the invented solution; to construct an innovation package for institutional use, i.e., to engineer	To create widespread awareness of the invention among practitioners, i.e., to inform	To afford an opportunity to examine and assess operating qualities of the invention, i.e., to build conviction	To build familiarity with the invention and provide a basis for assessing the quality, value, fit, and utility of the invention in a particular institution, i.e., to test	To fit the characteristics of the invention to the characteristics of the adopting institution, i.e., to operationalize	To assimilate the invention as an integral and accepted component of the system, i.e., to establish
Criteria	Validity (Internal and external)	Face Validity (appropriateness) --- Estimated Viability --- Impact (relative contribution)	Institutional Feasibility --- Generalizability --- Performance	Intelligibility --- Fidelity --- Pervasiveness --- Impact (extent to which it affects key targets)	Credibility --- Convenience --- Evidential Assessment	Adaptability --- Feasibility --- Action	Effectiveness --- Efficiency ---	Continuity --- Valuation --- Support
Relation to Change	Provides basis for invention	Produces the invention	Engineers and packages the invention	Informs about the invention	Builds conviction about the invention	Tries out the invention in the context of a particular situation	Operationalizes the invention for use in a specific institution	Establishes the invention as a part of an ongoing program; converts it to a "non-innovation"

Figure 3. A Classification Schema of Processes Related to and Necessary for Change in Education

Source: Guba, E. G., & Clark, D. L. An examination of potential change roles in education. Paper read at Symposium on Innovation in Planning School Curricula sponsored by the National Education Association Committee for Study of Instruction, Airlehouse, Va., October, 1965, P. 8.

Appendix E
Meeting of Voluntary Health Agencies and Associations

Report From National Health Council Invitational
Meeting For Selected Member Agencies, August 8, 1969

Twenty-one health professional associations and three voluntary health agencies sent representatives to the August 8, 1969, meeting called by the National Health Council. Participants discussed the interest of their associations in technical personnel and the ways health technology demonstration centers could serve them. Discussion focused on what, in their opinion, would be most important to demonstrate.

The group established three listings. One, they labeled as necessary characteristics of proposed demonstration centers: 1) that they demonstrate good basic programs; 2) that planning with the demonstration centers should involve professional association state constituents, as well as state-wide and regional health planning agencies; 3) that centers chosen have area facilities which are across levels--high school, graduate school where possible, aide-technical-professional; 4) that centers deal with the relationship of curriculum to parameters of present and future functions; 5) that they illustrate careful selection and proper use of clinical facilities; 6) that demonstration centers have more than a "look and see" function, with the following suggested as alternatives; faculty exchange, faculty workshops, faculty participation, team teaching; 7) that they involve licensure agencies if pertinent in a locale.

The second list developed in discussion might be labeled "to be included in demonstrations if possible:" 1) analysis of how and why programs are successful; 2) a fresh look at evaluation; 3) innovations involving such items as teaching methods, a more generic program, medical corpsmen entry, increased opportunities for educational progression, and broad orientation to recruitment-retention; 4) equivalency-testing; 5) the combining of continuing education with initial preparation of students.

The third list growing out of our discussion was an enumeration of what needs to be "developed" in demonstration centers (things participants felt were not existing or currently not sufficiently developed to be useful for demonstration purposes): 1) inter-professional organization cooperation; 2) inter-junior college cooperation; 3) flexibility in scheduling or programs; 4) lateral mobility; 5) vertical mobility; 6) information on the impact of varying administrative patterns; 7) information on the impact of varying educational philosophies.

National Health Council Invitational Meeting

August 8, 1969

Representative	Agency
Dr. Alfred Yankauer	American Academy of Pediatrics 1801 Hinman Avenue Evanston, Illinois 60201
Dr. Robert Cornelius	c/o American Association for Inhalation Therapy Riverside, California
Miss Laura Ann Biglow, R.R.L.	American Association of Medical Record Librarians 211 East Chicago Avenue Chicago, Illinois 60611
Ralph W. Ryan, M.D.	American Association of Ophthalmology 1100 17th Street, N.W. Washington, D. C. 20005
R. L. Matkin, D.M.D.	American Dental Association 211 East Chicago Avenue Chicago, Illinois 60611
Miss Alice H. Lutkus	American Dietetic Association 620 N. Michigan Avenue Chicago, Illinois 60611
Ralph C. Kuhli	American Medical Association 535 North Dearborn Street Chicago, Illinois 60610
Dr. Eileen M. Jacobi	American Nurses' Association 10 Columbus Circle New York, N. Y. 10019
Dr. Robert Cable	American Optometric Association 7000 Chippewa Street St. Louis, Missouri

Continued -

Representative	Agency
Miss Audrey J. Calomino	c/o American Orthotic and Prosthetic Association 919 18th Street, N.W. Washington, D. C. 20005
Lawrence W. Mills	American Osteopathic Association 212 East Ohio Street Chicago, Illinois 60611
Jordan Braverman	American Pharmaceutical Assn. 2215 Constitution Avenue, N.W. Washington, D. C. 20037
Miss Beth Phillips	American Physical Therapy Assn. 1740 Broadway New York, New York 10019
J. L. Troupin, M.D.	American Public Health Assn. 1740 Broadway New York, New York 10019
Miss Patricia Amos	American Society of Medical Technologists c/o Schools of Laboratory Sciences University of Alabama Medical Center 619 S. 19th Street Birmingham, Ala. 35233
James Mitchell	Association of Rehabilitation Centers 7979 Old Georgetown Road Washington, D. C. 20014
Miss Ruth Moore	National Association for Mental Health 10 Columbus Circle New York, New York 10019

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Representative	Agency
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Nicholas Pohlit	National Association of Sanitarians Lincoln Building, Room 208 1550 Lincoln Street Denver, Colorado 80203
John J. McHugh	President, National Association of Sanitarians Address: c/o Department of Health City of New York 125 Worth Street New York, New York 10013
Miss Margaret E. Adams	National Association of Social Workers 2 Park Avenue New York, New York 10016
Mrs. Barbara Pryor	National Committee for Careers in Medical Technology 9650 Rockville Pike Bethesda, Maryland
Miss Ann F. Oltman	National Easter Seal Society 2023 West Ogden Avenue Chicago, Illinois 60012

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Representative	Agency
Miss Margery Low and Miss Joan Kaiser	National League for Nursing 10 Columbus Circle New York, New York 10019
Miss Betty J. Gardiner	Society of Public Health Educators 419 Park Avenue South New York, New York 10016

Letter of Invitation

Two years ago the National Health Council and the American Association of Junior Colleges, under a grant from the Office of Education, produced a GUIDE FOR HEALTH TECHNOLOGY PROGRAM PLANNING. Our member organizations actively participated in building the Guide which is in its second printing. Over 10,000 copies have been distributed by AAJC and NHC. It has been well received and there is evidence that it has been utilized by many junior colleges and other institutions which sponsor two year programs in the health technologies. There is also evidence that this publication has resulted in more effective working relationships among health practitioner associations, health facility administrators and colleges planning programs for the education of technician level workers in the health field.

Within the two years since publication of the Guide, many new health programs have been started in two-year institutions. During this period, too, a number of these colleges have contracted to provide community college courses for students enrolled in on-going hospital-based programs. However, despite these gains to which the Guide contributed, there is a continuing need for additional workers in the health field and for strengthened educational preparation of personnel.

Therefore, the American Association of Junior Colleges and the National Health Council wish to maintain their joint efforts and in April, 1969, the National Health Council received a small grant from the Office of Education to make continued cooperative endeavors possible. This small grant is being used to study the feasibility of initiating "model" health technology education programs. Some of our member associations are participating in the current feasibility study either through selected representatives on the Advisory Committee or through their recommendation of out standing two-year programs with which they have had contact.

A much larger purpose is the ultimate goal of the feasibility study. If found feasible, the National Health Council and the American Association of Junior Colleges will apply for a grant to enable the two organizations to initiate a network of health technology "model" or demonstration centers. Such an undertaking is intended to give impetus to further development of technical programs based upon sound consultation with health professionals and, simultaneously, to stimulate some of the action and research necessary to create functioning health career "ladders" or avenues of mobility so necessary for effective recruitment of technical personnel today.

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Because of your concern with the problem of providing efficient and effective training for technician level workers, I am sure your association will wish to explore the participation you might find useful and rewarding in such a long-range demonstration project. Knowledge about the extent and degree of our members' interest will help us to determine the type of demonstration center which would be most useful and help to establish the approximate amount of government and/or foundation financial assistance most needed to make the centers a reality.

To solicit the thinking of our interested members on these issues, a meeting is being scheduled on Friday, August 8, 1969, at 10:00 A. M. in Conference Room, National Tuberculosis and Respiratory Disease Association, (16th Floor) 1740 Broadway, New York City. I hope you can arrange to have a representative of your association attend this session. Because of work-schedule deadlines on this project, this is unfortunately short notice of the meeting; however, we hope that the member of your staff who is most knowledgeable about technical level programs will be able to be present. Please let me know by August 1, on the enclosed post card, of your interest in the project and your plans for representation on August 8. Dr. Carol Kahler, who worked with the Council and the AAJC on development of the Guide, is coordinating the feasibility study and will conduct the meeting.

Sincerely,

Signed: Peter G. Meek
Executive Director